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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,769	03/29/2004	Akihiro Matsui	0941.70218	9515
7590 06/06/2005			EXAMINER	
Patrick G. Burns, Esq. GREER, BURNS & CRAIN, LTD. Suite 2500 300 South Wacker Drive Chicago, IL 60606			LOUIE, WAI SING	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/811,769	MATSUI ET AL.	
	Examiner	Art Unit	
	Wai-Sing Louie	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 7-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's election without traverse of Group I, claims 1-6, in the reply filed on 5/16/05 is acknowledge. It is suggested that non-elected claims 7-13 be canceled in the response to this Office Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lim et al. (US 6,642,086).

With regard to claim 1, Lim et al. disclose a thin film transistor (TFT) array substrate (col. 4, line 66 to col. 8, line 29 and fig. 5) comprising:

- an insulating substrate 100 (col. 5, line 14 and fig. 5a);
- A TFT "A" (col. 5, lines 38-48 and fig. 5c) arranged in a part of a pixel area P on the insulating substrate 100 (fig. 5c);
- an auxiliary capacitor K having an auxiliary capacitor electrode 104 arranged in the pixel area P and an opposite electrode 123 facing the auxiliary capacitor

electrode 104 being located in the same layer as a source electrode 116 and a drain electrode 119 of the TFT "A" (col. 5, lines 56-58 and fig. 5e);

- a pixel electrode 135 formed in the pixel area P, where the opposite electrode 123 is divided into two sections is electrically connected to the pixel electrode via a contact hole J (fig. 5e to 5g).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim et al. (US 6,642,086) in view of Kitakado et al. (US 6,709,902).

With regard to claims 2 and 6, Lim et al. disclose one of the divided sections of the opposite electrode 123 is connected to the drain electrode 119 of the TFT "A" via a connection 136 located in the same layer as the opposite electrode and the drain electrode (fig. 4 and 5g), but do not disclose the opposite electrode 123 is connected to the source electrode 116. However, Kitakado et al. disclose a pixel TFT comprises a drive circuit TFT and a buffer TFT (Kitakado col. 1, lines 33-40). Kitakado et al. teach the addition of a buffer TFT would not breakdown when a high voltage is applied and make a current drive ability higher (col. 1, lines 50-59). Lim

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et al. and Kitakado et al. have substantially the same environment of display device having a pixel drive circuit. Therefore, it would have been obvious for the one with ordinary skill in the art to modify Lim's device with the teaching of Kitakado et al. to provide a buffer TFT on the pixel drive circuit in order to prevent breakdown when a high voltage is applied and make a current drive ability higher. Lim et al. modified by Kitakado et al. would disclose the opposite electrode 166 connecting to the source electrode 162 (Kitakado fig. 3).

With regard to claim 3, Lim et al. modified by Kitakado et al. would disclose the pixel electrode 146 has a shape defining orientation of liquid crystal 606 and the electrical connection 604 extends along a boundary between domains with different orientations of the liquid crystal 605 (Kitakado col. 18, lines 32-44).

With regard to claim 4, Lim et al. disclose the source electrode 116 and the opposite electrode 123 are formed of the same material (col. 5, lines 38-42 and fig. 5c), but do not disclose the connection 136 is formed of the same material. Since the applicant has not established the criticality of the material stated and since these materials are in common use in similar devices in the art, it would have been obvious to one of ordinary skill in the art to use any material that can function in the same manner. See in *re Pearson*, *Ex parte Minks*, and *In re Swinehart*.

With regard to claim 5, Lim et al. modified by Kitakado et al. would disclose the pixel electrode 146 has a shape with branches extending to the left and right, and the electrical connection 604 extends along a center line of the pixel electrode 146 (Kitakado fig. 8).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wsl
May 30, 2005.

